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RCB/1773
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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

MAIL STOP RCE

Hideki KATO et al.

Group Art Unit: 1773

Application No.: 09/918,439

Examiner: Kevin Bernatz

Filed: August 1, 2001

Docket No.: 110287

For: MAGNETO-OPTICAL BODY AND OPTICAL ISOLATOR USING THE SAME

**LARGE ENTITY REQUEST FOR
CONTINUED EXAMINATION UNDER 37 C.F.R. §1.114**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. §1.114, Applicants hereby request continued examination.

☒ Applicants further request entry and consideration of the attached submission (Request for Reconsideration).

The above-identified application was filed on or after June 8, 1995. Thus, entry is proper under 37 C.F.R. §1.114(d).

Attached hereto is our check no. 153389 in the amount of ☒ \$770.00 as payment of the fees set forth in 37 C.F.R. §1.17(e). The Commissioner is hereby authorized to charge any additional fees or credit any overpayment associated with this communication to Deposit Account No. 15-0461. Two duplicate copies of this page are enclosed.

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Respectfully submitted,

James A. Oliff
Registration No. 27,075

Tarik M. Nabi
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JAO:TMN/ccs
Date: April 26, 2004

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For: MAGNETO-OPTICAL BODY AND OPTICAL ISOLATOR USING THE SAME

REQUEST FOR RECONSIDERATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Further to the Request for Continued Examination (RCE) filed herewith, reconsideration of the above-identified application is respectfully requested in light of the following remarks. Claims 1, 3-4 and 7-8 are pending in this application.

The January 12, 2004 Advisory Action indicates that the Amendment After Final Rejection filed on November 28, 2003 does not place the application in condition for allowance. Thus, claims 1, 3-4 and 7 remain rejected under 35 U.S.C. §103(a) over Inoue et al. (U.S. Patent Publication No. 2001/0048643A1) in view of Li (U.S. Patent No. 6,487,014 B2), and claim 8 under 35 U.S.C. §103(a) over Inoue in view of Li and further in view of Yamada (U.S. Patent No. 6,448,850 B1) and Hamada. Applicants respectfully traverse the rejections.

In particular, Applicants assert that Inoue, Li, Yamada and Hamada, either alone or in combination, do not disclose, suggest or render obvious a magneto-optical body including at

least two dielectric multi-layered films and a magnetic film provided between the two dielectric multi-layered films, wherein the two dielectric multi-layered films comprise two types of dielectric films alternately laminated with each other regular in thickness and wherein the one dielectric film has a refractive index of three or higher, and the other dielectric film has a refractive index of SiO_2 , as recited in independent claim 1.

Specifically, Inoue teaches a magneto-optical recording medium 7 having two reflection layers 13 with a magnetic layer 27 sandwiched between the reflection layers. In Inoue, when the magneto-optical recording medium 7 is irradiated with a laser beam as shown in Fig. 23, a higher rotation angle is obtained when the reflective index of the reflection layers 13 is low ([0140], page 10).

Moreover, Li discloses an optical isolator consisting of a stack of alternative low and high refractive index layers 10A and 10B sandwiched between two high refractive index substrates 12 and 14 in which the multilayer film 10 can transmit s-polarized light of nearly 100% in a wide wavelength. Accordingly, the optical isolator's purpose is to improve the polarizing effect, in both transmissivity and reflectance, before and after a beam is introduced into the magneto-optical body (col. 4, lines 39-50). In fact, Li applies the multi-layer film composed of silicon and SiO_2 films to provide an optimal condition for a polarization beam splitter in order to enable the transmissivity of s-polarized light to achieve 100%, and the transmissivity of p-polarized light to achieve 0% (creating optical switches, Abstract).

MPEP §2143.01 discloses that "if proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." Because the silicon and SiO_2 of Li cannot rotate polarized light, combining Li with Inoue would have resulted in a structure that cannot obtain a large rotational angle. As such, the modification of Inoue's magneto-optical

recording medium would result in a structure that would render Inoue's magneto-optical medium unsatisfactory for its own intended purpose.

Moreover, Inoue discloses a bandwidth of wavelength partially making a conical shape in the range of less than 100 nm (Fig. 24) by means of a resonance phenomenon, and a high resonance is indicated in the limited bandwidth, which suggests that a high magneto-effect is obtained in this limited range. Although Li requires a low reflectance and a wide operating range in wavelength, Inoue only discloses that the applied resonance wavelength may be varied according to a layered structure. In other words, Inoue does not disclose the widening of the wavelength operating range. Accordingly, a modification of Li's multilayer film with Inoue's magneto-optical recording medium would not have resulted in a multilayer film with a 100% transmissivity of s-polarized light and a 0% transmissivity of p-polarized light, and would thus have rendered Li unsatisfactory for its own intended purpose.

Because the applied references fail to disclose these features, any resulting device would not have successfully achieved strong localization of light over a magnetic thin film by applying two dielectric multilayered films, each multilayered film being composed of Si and SiO₂ films having large difference in refractive index. Thus, a maximized Faraday rotation angle would not be obtained while not increasing a number of laminations of the multilayered films.

Thus, because a combination of Li and Inoue would not have resulted in a magneto-optical body according to the claimed invention, Applicants respectfully request that the rejections under 35 U.S.C. §103(a) be withdrawn.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1, 3-4 and 7-9 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



James A. Oliff
Registration No. 27,075

Tarik M. Nabi
Registration No. 55,478

JAO:TMN/dmw

Attachments:

Petition for Extension of Time
Request for Continued Examination

Date: April 26, 2004

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